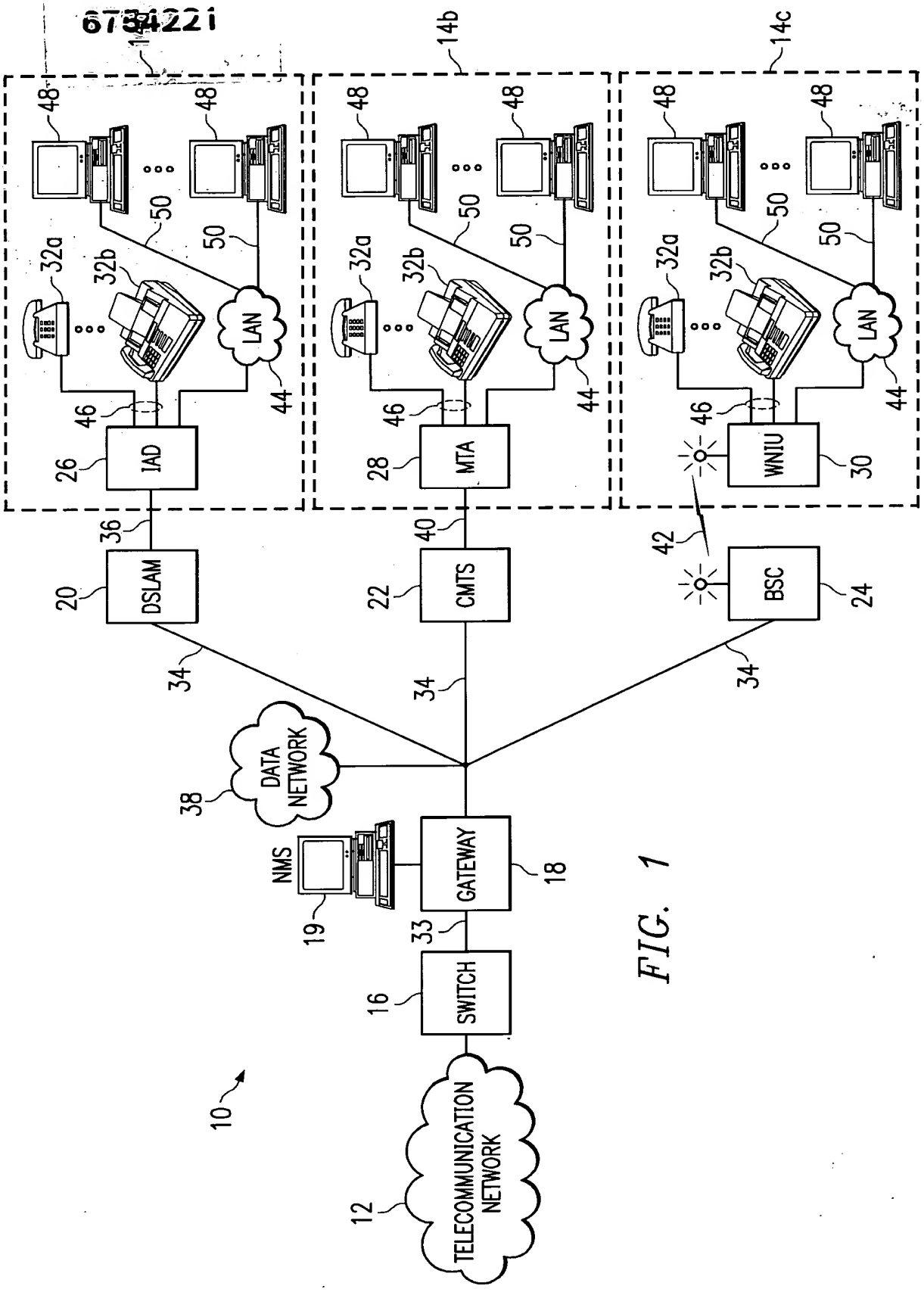
14a
14b
14c
48
50
32a
32b
LAN
44
46
IAD
26
MTA
28
WNIU
30
36
DSLAM
20
40
CMTS
22
42
BSC
24
34
DATA NETWORK
38
NMS
19
GATEWAY
18
33
SWITCH
16
TELECOMMUNICATION NETWORK
12
10

FIG. 1

Attorney's Docket: 066303.0124
System and Method for Selecting a Compression
Algorithm According to an Available Bandwidth
by Robert H. Whitcher, et al.
Sheet 2 of 8

FIG. 2

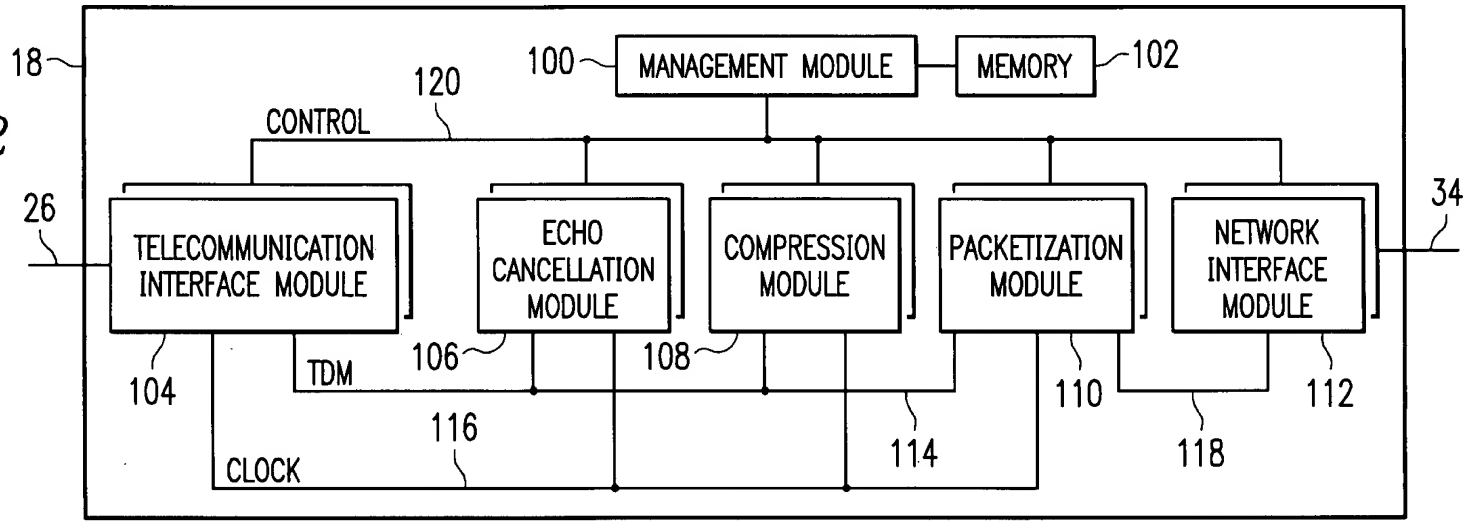

FIG. 3

200

202 CUSTOMER PREMISES EQUIPMENT	204 TOTAL BANDWIDTH (Kbps)	206 BANDWIDTH RESERVED FOR DATA (Kbps)	208 BANDWIDTH RESERVED FOR VOICE (Kbps)	210 BANDWIDTH ALLOCATED FOR DATA (Kbps)	212 BANDWIDTH ALLOCATED FOR VOICE (Kbps)	214 BANDWIDTH AVAILABLE FOR VOICE (Kbps)	216 AVAILABLE VOICE COMPRESSION ALGORITHMS
IAD #23	1500	500	500	400	924	76	G.711 G.723
MTA #35	3000	·	1000	1700	800	500	G.711 G.728
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
WNIU #61	1200	·	·	600	400	200	G.711 G.723 G.728

250

252 CUSTOMER PREMISES EQUIPMENT	254 SUBSCRIBER IDENTIFIER	256 CLASS OF SERVICE	258 SUBSCRIBER LINE STATUS	260 VOICE COMPRESSION ALGORITHM	262 BANDWIDTH ALLOCATED FOR VOICE (Kbps)
IAD #23	1	1	.	.	.
	2	1	ACTIVE	G.711	64
	3	1	ACTIVE	G.711	64
	4	1	ACTIVE	G.711	64
	5	2	.	.	.
	6	2	ACTIVE	G.729	8
	7	2	ACTIVE	G.722	32
	8	2	ACTIVE	G.729	8
	9	2	.	.	.
	10	2	ACTIVE	G.729	8
	11	2	ACTIVE	G.729	8
	12	2	ACTIVE	G.722	32
	13	2	ACTIVE	G.722	32
	14	1	ACTIVE	G.711	64
	15	2	.	.	.
	16	1	ACTIVE	G.711	64
	17	1	.	.	.
	18	1	ACTIVE	G.711	64
	19	2	.	.	.
	20	2	ACTIVE	G.722	32
	21	2	ACTIVE	G.729	8
	22	2	ACTIVE	G.729	8
	23	2	ACTIVE	G.722	32
	24	2	ACTIVE	G.722	32

FIG. 4

FIG. 5

300

	T1	T2	T3	T4	T5	T6	T7
302 TOTAL BANDWIDTH	500	500	500	450	450	500	500
304 BANDWIDTH ALLOCATED FOR DATA	300	300	300	300	300	300	300
306 BANDWIDTH ALLOCATED FOR VOICE	0	64	128	128	144	144	160
308 AVAILABLE BANDWIDTH	200	136	72	22	6	56	40
310 SUBSCRIBER 1	·	G.711	G.711	G.711	G.711	G.711	G.711
312 SUBSCRIBER 2	·	·	G.711	G.711	G.711	G.711	G.711
314 SUBSCRIBER 3	·	·	·	·	G.728	G.728	G.728
316 SUBSCRIBER 4	·	·	·	·	·	·	G.728

FIG. 6

350

	T1	T2	T3	T4	T5	T6	T7
352 TOTAL BANDWIDTH	500	500	500	500	500	500	500
354 BANDWIDTH ALLOCATED FOR DATA	300	300	350	350	350	300	300
356 BANDWIDTH ALLOCATED FOR VOICE	0	64	64	80	96	96	160
358 AVAILABLE BANDWIDTH	200	136	86	70	54	104	40
359 THRESHOLD BANDWIDTH	64	48	48	32	16	16	0
360 SUBSCRIBER 1	·	G.711	G.711	G.711	G.711	G.711	G.711
362 SUBSCRIBER 2	·	·	·	G.728	G.728	G.728	G.728
364 SUBSCRIBER 3	·	·	·	·	G.728	G.728	G.728
366 SUBSCRIBER 4	·	·	·	·	·	·	G.711

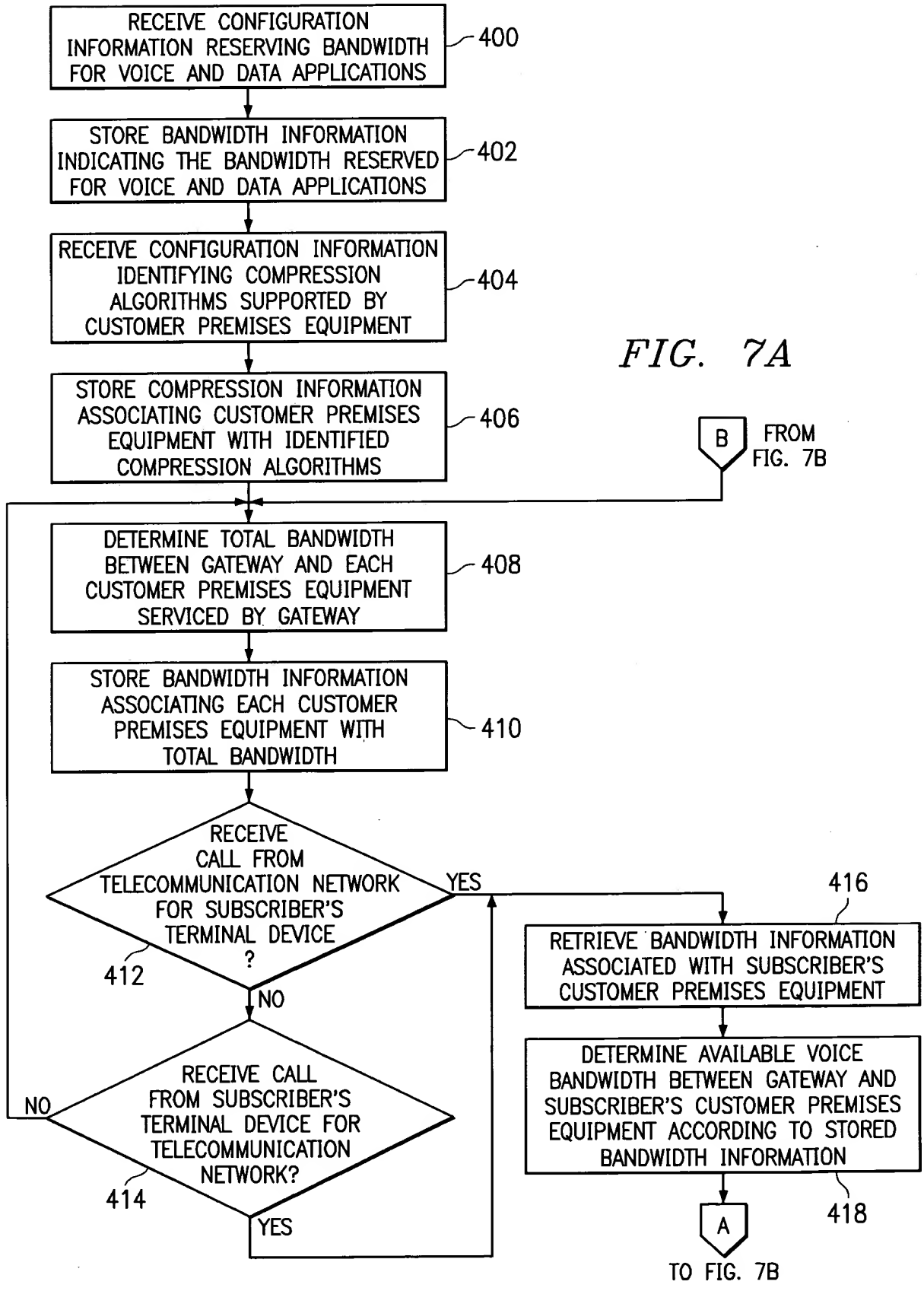
RECEIVE CONFIGURATION INFORMATION RESERVING BANDWIDTH FOR VOICE AND DATA APPLICATIONS
400
STORE BANDWIDTH INFORMATION INDICATING THE BANDWIDTH RESERVED FOR VOICE AND DATA APPLICATIONS
402
RECEIVE CONFIGURATION INFORMATION IDENTIFYING COMPRESSION ALGORITHMS SUPPORTED BY CUSTOMER PREMISES EQUIPMENT
404
STORE COMPRESSION INFORMATION ASSOCIATING CUSTOMER PREMISES EQUIPMENT WITH IDENTIFIED COMPRESSION ALGORITHMS
406
B
FROM FIG. 7B
DETERMINE TOTAL BANDWIDTH BETWEEN GATEWAY AND EACH CUSTOMER PREMISES EQUIPMENT SERVICED BY GATEWAY
408
STORE BANDWIDTH INFORMATION ASSOCIATING EACH CUSTOMER PREMISES EQUIPMENT WITH TOTAL BANDWIDTH
410
RECEIVE CALL FROM TELECOMMUNICATION NETWORK FOR SUBSCRIBER'S TERMINAL DEVICE ?
412
YES
NO
RECEIVE CALL FROM SUBSCRIBER'S TERMINAL DEVICE FOR TELECOMMUNICATION NETWORK?
414
NO
YES
416
RETRIEVE BANDWIDTH INFORMATION ASSOCIATED WITH SUBSCRIBER'S CUSTOMER PREMISES EQUIPMENT
DETERMINE AVAILABLE VOICE BANDWIDTH BETWEEN GATEWAY AND SUBSCRIBER'S CUSTOMER PREMISES EQUIPMENT ACCORDING TO STORED BANDWIDTH INFORMATION
418
A
TO FIG. 7B

FIG. 7A

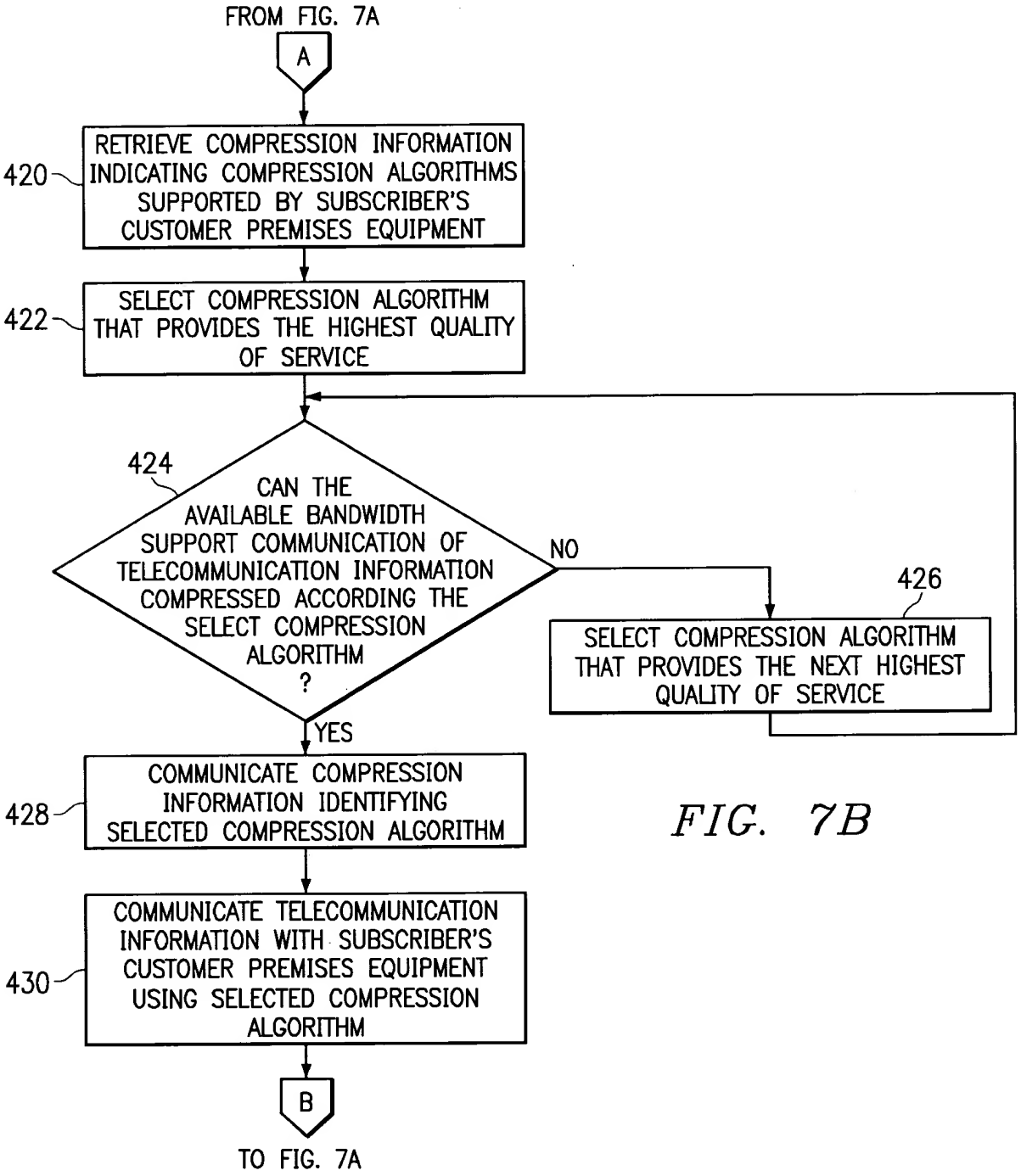
FROM FIG. 7A
A
420
RETRIEVE COMPRESSION INFORMATION INDICATING COMPRESSION ALGORITHMS SUPPORTED BY SUBSCRIBER'S CUSTOMER PREMISES EQUIPMENT
422
SELECT COMPRESSION ALGORITHM THAT PROVIDES THE HIGHEST QUALITY OF SERVICE
424
CAN THE AVAILABLE BANDWIDTH SUPPORT COMMUNICATION OF TELECOMMUNICATION INFORMATION COMPRESSED ACCORDING THE SELECT COMPRESSION ALGORITHM ?
NO
426
SELECT COMPRESSION ALGORITHM THAT PROVIDES THE NEXT HIGHEST QUALITY OF SERVICE
YES
428
COMMUNICATE COMPRESSION INFORMATION IDENTIFYING SELECTED COMPRESSION ALGORITHM
430
COMMUNICATE TELECOMMUNICATION INFORMATION WITH SUBSCRIBER'S CUSTOMER PREMISES EQUIPMENT USING SELECTED COMPRESSION ALGORITHM
B
TO FIG. 7A

FIG. 7B

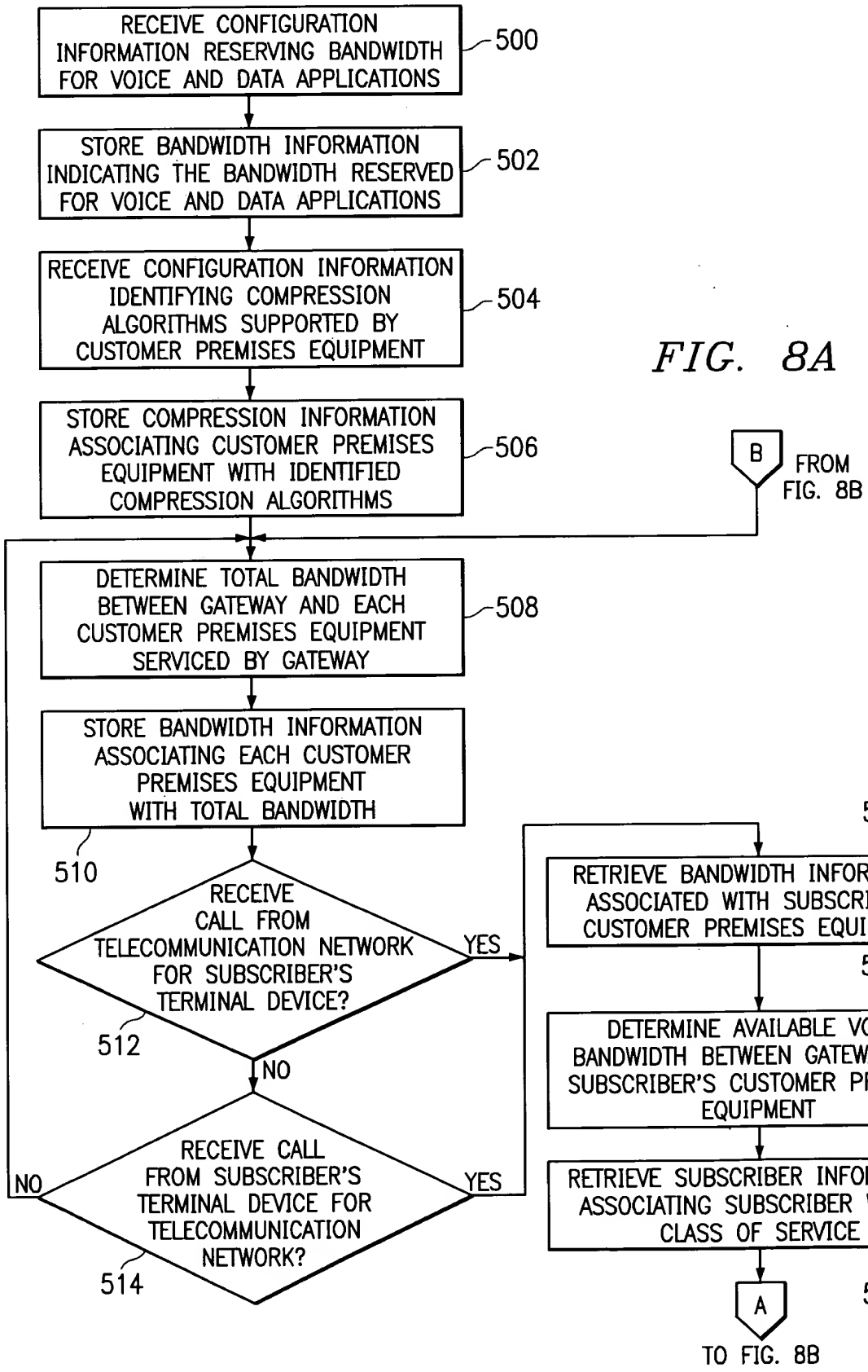
RECEIVE CONFIGURATION INFORMATION RESERVING BANDWIDTH FOR VOICE AND DATA APPLICATIONS
500
STORE BANDWIDTH INFORMATION INDICATING THE BANDWIDTH RESERVED FOR VOICE AND DATA APPLICATIONS
502
RECEIVE CONFIGURATION INFORMATION IDENTIFYING COMPRESSION ALGORITHMS SUPPORTED BY CUSTOMER PREMISES EQUIPMENT
504
STORE COMPRESSION INFORMATION ASSOCIATING CUSTOMER PREMISES EQUIPMENT WITH IDENTIFIED COMPRESSION ALGORITHMS
506
B
FROM FIG. 8B
DETERMINE TOTAL BANDWIDTH BETWEEN GATEWAY AND EACH CUSTOMER PREMISES EQUIPMENT SERVICED BY GATEWAY
508
STORE BANDWIDTH INFORMATION ASSOCIATING EACH CUSTOMER PREMISES EQUIPMENT WITH TOTAL BANDWIDTH
510
RECEIVE CALL FROM TELECOMMUNICATION NETWORK FOR SUBSCRIBER'S TERMINAL DEVICE?
512
YES
NO
RECEIVE CALL FROM SUBSCRIBER'S TERMINAL DEVICE FOR TELECOMMUNICATION NETWORK?
514
NO
YES
516
RETRIEVE BANDWIDTH INFORMATION ASSOCIATED WITH SUBSCRIBER'S CUSTOMER PREMISES EQUIPMENT
518
DETERMINE AVAILABLE VOICE BANDWIDTH BETWEEN GATEWAY AND SUBSCRIBER'S CUSTOMER PREMISES EQUIPMENT
RETRIEVE SUBSCRIBER INFORMATION ASSOCIATING SUBSCRIBER WITH A CLASS OF SERVICE
520
A
TO FIG. 8B

FIG. 8A

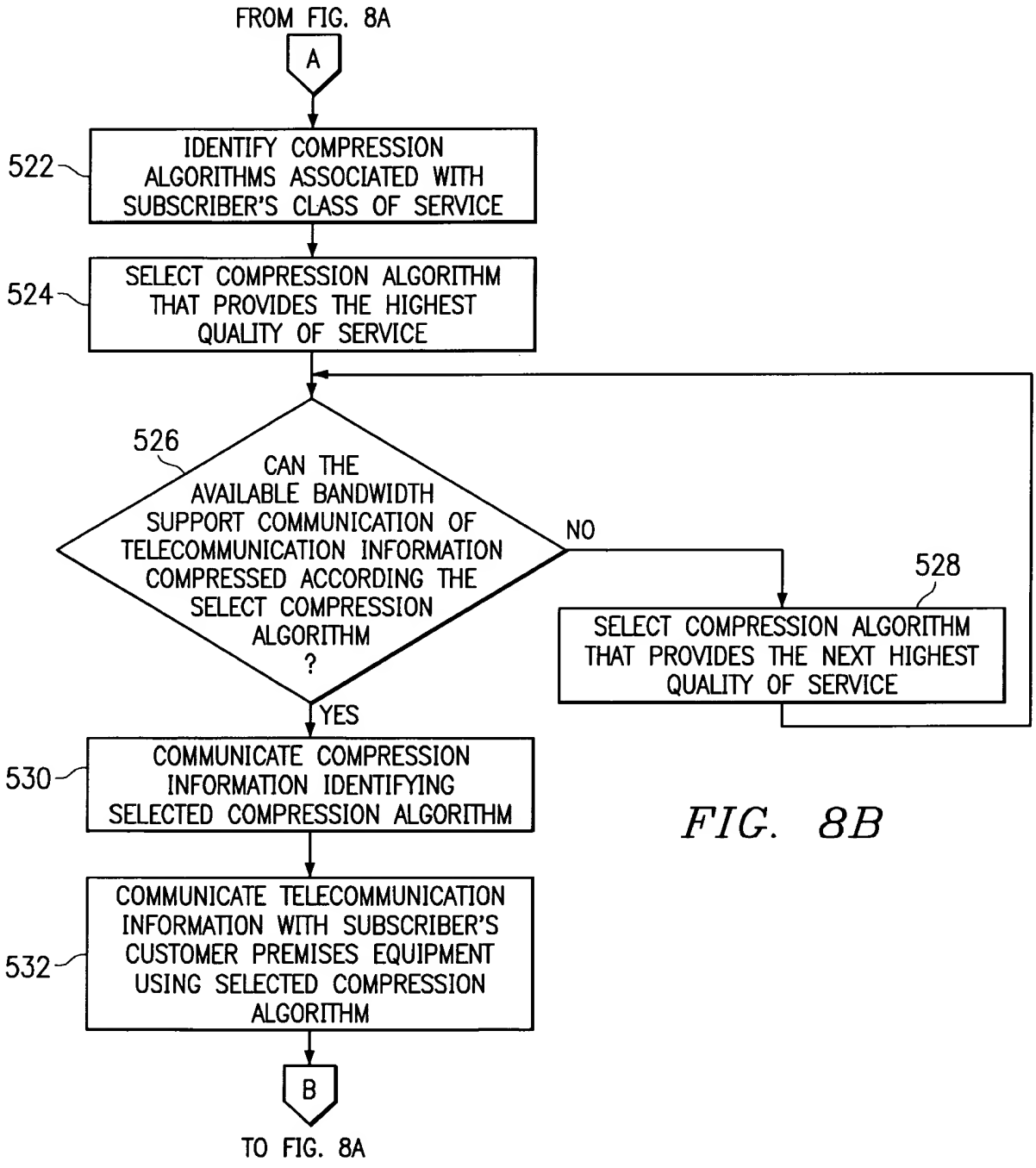
FROM FIG. 8A
A
522
IDENTIFY COMPRESSION ALGORITHMS ASSOCIATED WITH SUBSCRIBER'S CLASS OF SERVICE
524
SELECT COMPRESSION ALGORITHM THAT PROVIDES THE HIGHEST QUALITY OF SERVICE
526
CAN THE AVAILABLE BANDWIDTH SUPPORT COMMUNICATION OF TELECOMMUNICATION INFORMATION COMPRESSED ACCORDING THE SELECT COMPRESSION ALGORITHM ?
NO
528
SELECT COMPRESSION ALGORITHM THAT PROVIDES THE NEXT HIGHEST QUALITY OF SERVICE
YES
530
COMMUNICATE COMPRESSION INFORMATION IDENTIFYING SELECTED COMPRESSION ALGORITHM
532
COMMUNICATE TELECOMMUNICATION INFORMATION WITH SUBSCRIBER'S CUSTOMER PREMISES EQUIPMENT USING SELECTED COMPRESSION ALGORITHM
B
TO FIG. 8A

FIG. 8B